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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,702

09/29/2003

Mathilde Benveniste

AVA04-02

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7590

11/15/2007

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EXAMINER

LUONG, ALAN H

ART UNIT

PAPER NUMBER

4126

MAIL DATE

DELIVERY MODE

11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/673,702	Applicant(s) BENVENISTE, MATHILDE	
	Examiner ALAN LUONG	Art Unit 4126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is the initial Office Action based on the 10/673702 application filed on Sept 29, 2003. Claims 1-22, as originally filed, are currently pending and have been considered below.

Specification

2. The disclosure is objected to because of the following informalities: Incomplete US Patent Application Serial No. [¶0002] line 2.

Appropriate correction is required.

Claim Objections

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

A. Claims 2, 6 and 11 recite “a beacon” which is not supported by the specification.

B. Claims 1, 10, 14 and 21 recite “temporal period and temporal offset” which is not supported by the specification.

Claim 22 is objected to because of the following informalities: At line 1 of claim 22, the “23” is believed to be intended as “21” and the mistyping should be corrected as such. Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1 and 14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of U.S. Patent No. 7,154,876 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the current claims of application are broader than the claims in patent.

Examples: Claims 1 and 14 of the current application compare to claims 1 and 10 of (US'876):

example:

Application (claim 1)	Patent 7,154,876 (claim 1)
receiving a polling request that specifies a first temporal period and a first temporal offset for a plurality of expected future transmissions from a first station; and	1. A method comprising: (a) receiving a polling request that specifies a first temporal period for a plurality of expected future transmissions; (b) transmitting a plurality of polls to the sender of said polling request; (c) receiving a response to at least

<p>establishing a polling schedule based on said polling request.</p>	<p>one of said plurality of polls; (d) estimating a first temporal offset for said first temporal period based on at least one of: (i) when said response was received, and (ii) when at least one of said plurality of polls was transmitted; and (e) establishing a polling schedule based on said first temporal period and said first temporal offset wherein the temporal offset for the temporal period reduces a delay between when a station queues a frame and when a station transmits a frame; (f) receiving a plurality of frames for forwarding to said sender of said polling request; (g) determining whether the arrival times of said frames are in accordance with a second temporal offset and a second temporal period; and (h) establishing, when said arrival times are in accordance with said second temporal offset and said second temporal period, a transmission schedule for transmitting each of said frames to said sender of said polling request; wherein said transmission schedule is based on said second temporal offset and said second temporal period wherein said second response is used since said second response may not include a time required to gain contention based access to a shared communications channel while said first response may include a time required to gain contention based access to a shared communications channel.</p>
<p>Claim 14. An apparatus comprising:</p> <p>a receiver for receiving a polling request that specifies a first temporal period and a first temporal offset for a plurality of expected future transmissions from a first station; and</p> <p>a processor for establishing a polling schedule based on said polling request.</p>	<p>Claim 10. An apparatus comprising;</p> <p>(a) a receiver for receiving a polling request that specifies a first temporal period for a plurality of expected future transmissions;</p> <p>(b) a transmitter for transmitting a plurality of polls to the sender of said polling request;</p> <p>(c) a processor for estimating a first temporal offset for said first temporal period based on at least one of: (i) when said response was received, and (ii) when at least one</p>

	<p>of said plurality of polls was transmitted; and wherein said processor is also for establishing a polling schedule based on said first temporal period and said first temporal offset wherein the temporal offset for the temporal period reduces a delay between when a station queues a frame and when a station transmits a frame; wherein said receiver is also for receiving a plurality of frames for forwarding to said sender of said polling request; and wherein said processor is also for (iii) determining whether the arrival times of said frames are in accordance with a second temporal offset and a second temporal period, and (iv) establishing, when said arrival times are in accordance with said second temporal offset and said second temporal period, a transmission schedule based on said second temporal offset and said second temporal period for transmitting each of said frames to said sender of said polling request wherein said second response is used since said second response may not include a time required to gain contention based access to a shared communications channel while said first response may include a time required to gain contention based access to a shared communications channel.</p>

2.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in application are the same subject matter to the claims in the patent although the current claims of application are broader than the claims in patent.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 16, 20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4, 16, 20 and 22 contain the trademark/trade name IEEE802.11. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe Wireless Local Area Network protocol and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims **1, 2, 5-8** are rejected under 35 U.S.C. 102(e) as being anticipated by US

Pub. No. 2003/0198244 A1 published by Ho et al.

Regarding to claim 1: Ho teaches a method comprising:

The access point (a first station, AP 104 of Fig. 1) generates a first frame (120) as a poll signal or “requesting polling (RP) frame” and receives (receiving) one or more second frames (126) as a request reservation (RR) frames (a polling request) from one wireless station of a plurality of wireless stations (STA102 of Fig.1), that RR frame informs the time amounts (first temporal period) needed to transmit the data belonging to the indicated traffic streams, the time interval of RPI frame (a first temporal period and temporal offset) specifies a time schedule for a plurality of expected future transmissions from AP104 in a controlled fashion (see Fig.1, 3, ¶0004, ¶0007, ¶0018 and ¶0020); and

the access point 104 generates and broadcasts an RP frame 120 and duration of RPI (a polling schedule) based on the RR frame (polling request) (see Fig. 4 and ¶0019, ¶0020, ¶0021 lines 1-6).

Regarding to claim 2: In the method of claim 1 above, Ho discloses that the access point generates and transmits a first frame (a beacon) to the wireless stations.

The first frame defines a time interval (is relative to first temporal offset) during which each of the wireless stations having data for transmission may attempt to send a second frame. (see Abstract lines 3-7)

Regarding to claim 5: Ho also teaches:

the access point may have received one or more RR frames 126 (see ¶0023)(receiving a plurality of frames for forwarding to said first station);

the access point may also send another RP frame (a second temporal period and a second temporal offset) to initiate another RPI interval for more RR frames transmissions (¶0024) (the arrival times of said frames are substantially periodic as described); and

the access point 104 chooses the contention window value for each RPI to optimize access by wireless stations in their RR frame transmissions (see ¶0025). (establishing, when the arrival times of said frames are substantially periodic), a RP frame from access point AP104 of FIG.1 defines the RPI interval (a transmission schedule) contain for transmitting RR frames from STA 102 of Fig. 1 (first station);

Regarding to claim 6: The method of claim 5 above, Ho teaches the access point may also send another RP frame (a beacon frame is relative to a second temporal offset) to initiate another RPI interval for more RR frames transmissions (¶0024).

Regarding to claim 7: The method of claim 5 wherein said transmission schedule is also based on said polling schedule (see ¶0018 and ¶0025).

Regarding to claim 8: Ho discloses the method to reduce collision between stations within RPI interval (polling schedule) (combining said polling schedule and said transmission schedule into a composite schedule)(see Fig. 3 and ¶0025).

7. Claims **14, 15, 17-19** are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,737,330 issued to Fulthorp et al.

Regarding to claim 14: Fulthorp discloses a base station (2 of Fig. 1)(an apparatus) comprising:

a receiver (34 of Fig. 3A) for receiving a polling request that specifies a first temporal period and a first temporal offset (col. 2 lines 61-67) for a plurality of expected future transmissions (col.2 lines 31-37) from a remote units (6 of Fig. 1)(a first station)(see Fig. 3A and col. 6, lines 24-40)

a CPU (38 of Fig. 3A) for establishing a polling table (48 of Fig. 3A)(a polling schedule) based on the polling request from the remote units (6 of Fig. 1) (see Fig. 3A and col.3 lines 34-55).

Regarding to claim 15: Fulthorp also discloses the base station (2 of Fig. 1) above comprises the transmitter (32 of Fig. 3A) for transmitting a poll frame (610 of Fig. 4) (see col. 9 lines 26-40) to the remote units (6 of Fig. 1)(said first station) in accordance with the polling table (said polling schedule)(see col.3 lines 12-15, col. 9 lines 26-39).

Regarding to claim 17: In the base station on claim 14 above, Fulthorp also teaches the receiver (34 of Fig. 3A) is also for receiving a response frames (608 of Fig. 4) (a plurality of frames) for forwarding to the remote radio unit (said first station) (col. 9

lines 41-44 and Fig. 4); and wherein the processor (38 of Fig. 3A) is also for:

(i) determining whether the arrival times of said frames are substantially periodic as described by a second temporal period and a second temporal offset (col.7 lines 22-42 and col.8 lines 24-46); and

(ii) establishing, when the arrival times of said frames are substantially periodic, a transmission schedule for transmitting each of polling signal (said frames) to the remote unit (said first station), wherein said transmission schedule is based on said second temporal offset and said second temporal period (col. 3 line 34 to col. 4 line 30).

Regarding to claim 18: Fulthorp discloses the base station wherein said processor is also for combining said polling schedule and said transmission schedule into a composite schedule (col. 8 lines 46-62, col. 9 line 66 to col. 10 line14).

Regarding to claim 19: Fulthorp discloses the base station further comprising a transmitter (32 of Fig. 3A) for transmitting:

(i) the poll signal (600 and 602 of Fig. 4) to the remote unit (said first station) in accordance with the polling table (said polling schedule) (col. 9 lines 24-35); and

(ii) each of the poll frames (610 of Fig. 4) to the remote unit (said first station) in accordance with said transmission schedule (see Fig. 4, col. 9 lines 26-40).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

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patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims **3, 4, 9, 10-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. No. 2003/0198244 A1 published by Ho et al.; in view of US. Pub. No. 2002/0093953 A1 published by Naim et al.

Regarding to claim 3, 9 and 12:In the Ho's method further teaches transmitting a poll to a first wireless station (first station) in accordance with RPI time interval (polling schedule) as claim 1 above, but fails to teach wherein the transmission of said poll and the reception of said polling request are via a shared-communications channel.

Naim teaches a method allocating bandwidth resources to utilize a polling scheme where the base station polls (transmit a poll) each mobile station to learn the status of the data queue in each mobile station. This allows the base station to determine how to share the bandwidth resources among the different mobile stations. Thus, when polled the mobile station can send a response indicating whether it has data to transmit. (see ¶0006, ¶0007, ¶0012, ¶0013 and ¶0032).

In light of Naim, It would have been obvious to one of ordinary skill in the art to apply Naim's method in Ho's polling communication; in order to recreate the high Quality of Service (QoS) as improving throughput and reliable delivery of data.

Regarding to claim 4: Ho discloses the method of claim 3, comprising an access point 104 and a plurality of wireless stations 102 link to wireless communication

network 100 are in accordance with an IEEE 802.11 protocol (Fig. 1, US'244 ¶¶0016, ¶¶0019).

Regarding to claim 10: Ho teaches a method comprising:

A wireless station 102 (a first station) transmits a RR frame (a polling request) that specifies a RPI interval (temporal period and a temporal offset) for a plurality of expected future transmissions (Fig. 3; Abstract lines 7-13, ¶¶0007, ¶¶0018)

The wireless station (102 of Fig. 1) receives a RP frame (a poll) from the access point (104 of Fig. 1); and transmitting a second frame as RR frame (said frame in response to said poll)(see Fig. 3-5 and ¶¶0018, ¶¶0021). However, Ho fails to teach queuing a frame in accordance with said temporal period and on said temporal offset;

Naim, in the same polling communication field, teaches the method determines and observes the queue length for a frame (see Fig. 2, ¶¶0029 lines 11 –22 and Fig. 4 steps 100-106, ¶¶0034) in accordance with said temporal period and on said temporal offset above;

In light of Naim, It would have been obvious to one of ordinary skill in the art to apply Naim's determining queue length method in Ho's polling communication; in order to determine optimum amount of data in the queue for the high Quality of Service (QoS) as improving throughput and reliable delivery of data.

Regarding to claim 11: The method of claim 10 above, Ho teaches that the access point generates and transmits a first frame (a beacon) to the wireless stations. The first frame defines a time interval (is relative to first temporal offset) during which

each of the wireless stations having data for transmission may attempt to send a second frame. (see Abstract lines 3-7)

Regarding to claim 13: Ho discloses the method of claim 12 above wherein the transmission of said polling request, the transmission of said frame, and the reception of said poll are in accordance with an IEEE 802.21 protocol (§0016, §0019 and §0022).

10. Claims **16, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp et al. in view of Ho et al.

Regarding to claims 16 and 20: Fulthorp teaches the apparatus of claim 15, but fails to teach the transmitter and the receiver operate in accordance with 802.11 protocols.

Ho teaches a wireless network comprising an access point 104 and a plurality of wireless stations 102 link to wireless communication network 100 are in accordance with an IEEE 802.11 protocol (Fig. 1, US'244 §0016, §0019 and §0022).

In light of Ho, It would have been obvious to one of ordinary skill in the art to apply Ho's IEEE 802.11 protocol in Fulthorp's polling communication, in order to provide a new program structure is compliant with IEEE 802.11 into the wireless communication network.

11. Claim **21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp et al. in view of Naim et al.

Regarding to claim 21: Fulthorp discloses a remote unit (6 of Fig.1) comprising:

a transmitter (32 of Fig. 3B) for transmitting a response frames (a polling request) (col. 2 lines 24-29, col. 3 lines 12-15) that specifies a temporal period and a temporal offset (col. 2 lines 27-30) for a plurality of expected future transmissions (col. 2 lines 24-29) ;

a receiver (34 of Fig. 3B) for receiving a poll signal (600 of Fig. 4) in response to the series of response frames (608 of Fig. 4)(the polling request)(see col. 9 lines 41-59);

However, Fulthorp fails to teach a processor (38 of Fig. 3B) for queuing a frame in accordance with said temporal period and on said temporal offset.

Naim, in the same polling communication field, teaches the method determines and observes the queue length for a frame (see Fig. 2, ¶0029 lines 11 –22 and Fig. 4 steps 100-106, ¶0034) in accordance with said temporal period and on said temporal offset above;

In light of Naim, It would have been obvious to one of ordinary skill in the art to apply Naim's determining queue length in Fulthorp's polling communication, in order to determine optimum amount of data in the queue for the high Quality of Service (QoS) as improving throughput and reliable delivery of data.

12. Claim **22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Fulthorp et al. and Naim et al. as applied to claim 22 above and further in view of Ho et al.

Regarding to claim 22: Fulthorp and Naim teach the apparatus of claim 21 above, but fail to teach the transmitter and the receiver operate in accordance with 802.11 protocols.

Ho teaches a wireless network comprising an access point 104 and a plurality of wireless stations 102 link to wireless communication network 100 are in accordance with an IEEE 802.11 protocol (Fig. 1, US'244 ¶0016, ¶0019 and ¶0022).

In light of Ho, It would have been obvious to one of ordinary skill in the art to apply Ho's IEEE 802.11 protocol in Fulthorp's polling communication, in order to provide a new program structure is compliant with IEEE 802.11 into the wireless communication network.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN LUONG whose telephone number is (571) 270-5091. The examiner can normally be reached on Mon.-Thurs., 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Chow can be reached on (571) 272-7767. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alan H. Luong
Art Unit 2126
Date 11/01/2007

/Dennis-Doon Chow/

Supervisory Patent Examiner, Art Unit 4126